

RATE OF UNCONTROLLED HYPERTENSION AND CONTRIBUTING FACTORS IN MEDICAL OUTPATIENT POPULATIONS

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Resume. Hypertension greatly increases cardiovascular risk and mortality; identifying factors linked to poor control can improve management and prevent further complications.

Keywords: hypertension, associated factors, medical clinic, district general hospital vavuniya, sri lanka.

Relevance. Cardiovascular diseases are one of the biggest health problems worldwide, causing about 17.9 million deaths each year. High blood pressure (hypertension) is a major cause and reducing its cases by one-third between 2010 and 2030 is a global goal. Many people still have uncontrolled hypertension, often because they do not take their medicine regularly, live unhealthy lifestyles, or face social and economic challenges. Nearly 1 billion people are affected worldwide. In South Asia, the problem is growing studies in Sri Lanka show that more than 40% of patients have uncontrolled blood pressure. Common risk factors include being overweight, lack of physical activity, drinking alcohol, and not following treatment plans. To solve this, action is needed from individuals, healthcare providers, and policymakers working together.

Aim: to measure how common uncontrolled high blood pressure is among patients attending medical clinics at the District General Hospital in Vavuniya, and to identify the personal,

lifestyle, and social factors that contribute to its persistence. The study also aims to explore both medical and everyday influences in order to provide evidence that can guide targeted interventions and improve the management of hypertension.

Objectives:

1. To find out how many patients at the District General Hospital in Vavuniya have uncontrolled high blood pressure.

2. To identify the social, lifestyle, medical, and family-related factors that contribute to uncontrolled high blood pressure in this group.

3. To explore how social background, daily habits, medication use, and family history play a role in keeping high blood pressure uncontrolled among these patients.

Material and methods. This descriptive cross-sectional study was carried out at the District General Hospital, Vavuniya (DGH-V), a key primary care facility in the Vavuniya District, between February and October 2025. The study population consisted of patients

diagnosed with essential hypertension who were attending medical clinics and had been receiving antihypertensive therapy with one or more medications for at least three months. Exclusion criteria included pregnant women, patients with dementia, and those who had missed two or more consecutive clinic visits. The sample size was determined using the standard formula, yielding 341 participants after accounting for a 10% non-response rate. A systematic sampling approach was applied, with every second eligible patient selected to ensure representativeness.

The primary outcome of this study was uncontrolled hypertension. Independent variables included socio-demographic characteristics (age, sex, occupation, monthly income, body mass index, and education level), lifestyle factors (dietary habits, physical activity, smoking, and alcohol use), and drug/family history (availability of medicines, adherence to therapy, and family history of hypertension). Data were collected using a pretested, structured questionnaire administered by trained inter-

viewers. The questionnaire was available in English, Sinhala, and Tamil, and covered sections on demographics, lifestyle, and drug/family history. Blood pressure, weight, and height were measured directly by interviewers, while previous blood pressure records were obtained from medical charts.

Ethical clearance for this study was granted by the Ethics Review Committee of the Regional Director of Health Services, and administrative approval was obtained from hospital authorities. Written informed consent was secured from all participants, with strict attention to autonomy, confidentiality, and voluntary participation. Data were analyzed using IBM SPSS software. Descriptive statistics (percentages, means, standard deviations, and charts) and inferential statistics (Chi-square test) were applied, with statistical significance defined as $p < 0.05$. The study findings will be shared with relevant stakeholders and presented at scientific meetings to support evidence-based strategies for better hypertension control and reduced cardiovascular risk.

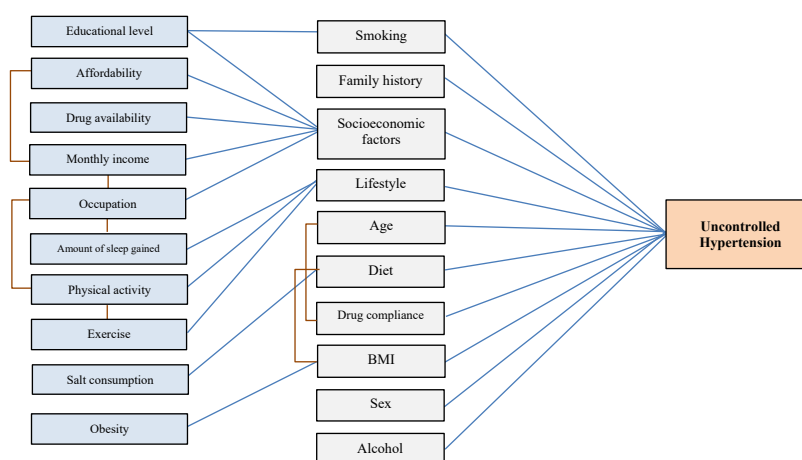


Fig. 1 – Conceptual framework of the methodology

Results and their discussion.

This hospital-based descriptive cross-sectional study, conducted at the District General Hospital Vavuniya (Feb–Oct 2025), examined 341 patients with essential hypertension to assess the prevalence and determinants of uncontrolled blood pressure. Hypertension was defined as SBP <140 mmHg and/or DBP <90 mmHg, with uncontrolled hypertension referring to persistently high levels due to poor adherence or resistance to therapy; 33.1% ($n=113$) of patients were uncontrolled while 66.9% ($n=228$) were controlled. Participants ranged from 32–87 years, with more than half aged ≥ 60 years, predominantly Tamil (63%) and female (71%). Most had education up to Ordinary Level, reported monthly incomes below Rs. 30,000, exercised fewer than three days per week, and frequently consumed fried, sugary, and salty foods. Nearly all had low alcohol and smoking exposure, while family history of hypertension was common (60%). Access to medicines was generally good, with high affordability, clinic attendance, and adherence. Statistical analysis showed BMI ($p<0.001$) and the number of antihypertensive medications

($p=0.003$) as significant predictors of uncontrolled hypertension. Findings highlight that uncontrolled hypertension is common among older adults, women, and those with unhealthy lifestyle practices, emphasizing the importance of weight management and treatment optimization. While strengths include systematic sampling, multilingual questionnaires, and a diverse catchment population, limitations include the rural setting, cross-sectional design, and predominance of older participants, which may reduce applicability to urban and working-age groups.

Conclusions:

1. Body mass index (BMI) was the only socio-demographic factor found to be significantly linked with uncontrolled high blood pressure.

2. Physical inactivity, frequent consumption of sugary foods, higher alcohol intake, and a greater smoking history were all significantly associated with uncontrolled high blood pressure.

3. The number of antihypertensive drugs taken was also significantly related to uncontrolled high blood pressure.

Literature

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ЧАСТОТА НЕКОНТРОЛИРУЕМОЙ АРТЕРИАЛЬНОЙ ГИПЕРТЕНЗИИ И СПОСОБСТВУЮЩИЕ ЕЕ ФАКТОРЫ У АМБУЛАТОРНЫХ ПАЦИЕНТОВ

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Резюме. Гипертензия значительно увеличивает риск сердечно-сосудистых заболеваний и смертность; выявление факторов, связанных с плохим контролем, может улучшить лечение и предотвратить дальнейшие осложнения.

Ключевые слова: гипертензия, сопутствующие факторы, медицинская клиника, окружная больница общего профиля Вавуния, Шри-Ланка.